Developing LBNE code with mrb

BV

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Fermilab pushes the use of a fairly new tool called mrb developed by Fermilab (by Lynn?) for developing packages built with art-flavor CMakeList.txt files. This includes larsoft and lbnecode and is intimately entwined with UPS and all that entails.

This topic holds notes on attempts at following this paradigm.

1 Links

- Quick-start guide to using and developing LArSoft code (very long)
- LBNE DocDB 8441 "Introduction to LArSoft under git / mrb / ups"

2 Exercising it on RACF

2.1 First try

An initial try on RACF based on 8441.

Executive summary: mrb considered dangerous.

Details of problems of first attempt:

- mrb -h does not work. The error at least says one must set some MRB_PROJECT variable to the "master product" whatever that means.
- \bullet mrb newDev command doc says it has not required options but it does actually require -v and -q
- There is no version involved in development of a package, and certainly not a set of packages so this version is bogus at face value
- Specifying qualifiers is meaningless as they have to do with release quantities and mrb is supposed to be about development and anyways, qualifiers it wants only pertain to Fermilab-local installation details.

- "git flow" is required by mrb and it is available as a UPS packaged yet the user must know to "setup gitflow". Instead, "setup mrb" should be enough and "gitflow" should be set up implicitly as a dependency
- after manually doing "setup gitflow" and repeating the mrb gitCheckout it fails. The step is neither atomic nor idempotent. Apparently the only solution is to nuke the directory and repeat.
- repeating "mrb newDev" after nuking the area gives a cryptic warning message about some directory not being a directory. I guess this is due to running it in an previous set up user environment?
- sourcing the "localProducts*/setup" script grows the PRODUCTS variable each time with duplicate entries.
- mrb only partly hides what it does but still requires the user to know and adhere to a directory structure and it is a directory structure that it sets the conventions for. Commands are directory dependent and it's up to the user to be clairvoyant to know these details.
- finally after wading through all these problems I try to actually build lbnecode which is all I wanted in the first place and it fails due to me apparently not guessing correctly about the "release" qualifiers to use for this development code.

This mrb software has absolutely no business being released. I can't believe people put up with this lack of quality and usability.

2.2 Second try

A second try was then made with an attempt to work around the problems with mrb. It was successful.